FOREWORD

This environmental impact statement (EIS) evaluates alternative approaches to and environmental impacts of shutting down the River Water System at the Savannah River Site (SRS). Until the end of the Cold War, the U.S. Department of Energy's (DOE's) primary mission at SRS was to produce and process nuclear materials to support national defense programs. The SRS produced nuclear materials that supported the defense, research, and medical programs of the United States. Five production reactors were constructed and operated at the site. To support these facilities, the River Water System was constructed to provide cooling water to pass through heat exchangers to absorb heat from the reactor core in each of the five reactor areas (C, K, L, P, and R). Par Pond and L-Lake are manmade reservoirs constructed in 1958 and 1984, respectively. Par Pond was built to provide additional cooling water for P- and R-Reactors, and DOE built L-Lake to dissipate heated effluent from L-Reactor. R-Reactor ceased operation in 1964; C-Reactor ceased operation in 1985; K-Reactor ceased operation in 1993; and P- and L-Reactors ceased operation in 1988. Now that all the reactors have been shut down, no operational need exists to provide cooling water except for small loads to K- and L-Reactor Areas. DOE's mission now emphasizes cleanup and waste management, environmental restoration, and decontamination and decommissioning. TC

DOE is examining options to reduce operating cost. The *DOE Savannah River Strategic Plan* directs the SRS to find ways to reduce operating costs and to determine what site infrastructure it must maintain and what infrastructure is surplus. The River Water System has been identified as a potential surplus facility. Three alternatives to reduce the River Water System operating costs are evaluated in this EIS. In addition to the No-Action Alternative, which consists of continuing to operate the River Water System, this EIS examines one alternative (the Preferred Alternative) to shut down and maintain the River Water System in a standby condition until DOE determines that a standby condition is no longer necessary, and one alternative to shut down and deactivate the River Water System.

Assumptions and analyses in this EIS are consistent with those that are in the *Continued Operation of K-, L-, and P-Reactors EIS,* DOE/EIS-0147 (1990); *L-Reactor Operation EIS,* DOE/EIS-0108 (1984); *Environmental Assessment for the Natural Fluctuation of Water Level in Par Pond and Reduced Water Flow in Steel Creek Below L-Lake at the Savannah River Site,* DOE/EA-1070 (1995); and *Savannah River Site Waste Management EIS,* DOE/EIS-0217 (1995).

DOE welcomes dialog with conservation and wildlife foundations. In a climate of decreasing funding, DOE must determine if it should continue to operate the River Water System. DOE is willing to consider donations by private or public foundations to offset costs required to maintain the river water supply and preserve L-Lake, which is expected to recede over a 10-year period if the River Water System is shut down. L9-11

DOE published a Notice of Intent to prepare this EIS in the *Federal Register* on June 12, 1996 (61 FR 29744). The notice announced a public scoping period that ended on July 12, 1996, and solicited comments and suggestions on the scope of the EIS. DOE held scoping meetings during this period in North Augusta, South Carolina, on June 27, 1996. During the scoping period, comments were received from individuals, organizations, and government agencies. Comments received during the scoping period and DOE's responses were used to prepare an action plan that defined the scope and approach of this EIS. DOE issued the action plan in August 1996.

TC The action plan and reference materials cited in this EIS are available for review in the DOE Public Reading Room, located at the University of South Carolina-Aiken Campus, Gregg-Graniteville Library, 2nd Floor, University Parkway, Aiken, South Carolina [(803) 648-6851].

DOE completed the draft of this EIS in November 1996, and on November 15, 1996 the U.S. Environmental Protection Agency published a Notice of Availability of the document in the *Federal Register* (61 CFR 58548). This notice officially started the public comment period on the draft EIS, which extended through December 30, 1996. Publication of the draft EIS provided an opportunity for public comment on the nature and substance of the analyses included in the document.

DOE has considered comments it received during the comment period in preparing this final TC EIS. These comments were received by letter, electronic mail, and statements made at public hearings held in North Augusta, South Carolina on December 4, 1997. Comments and responses to comments are in Appendix E.

Changes from the draft EIS are indicated in this final EIS by vertical change bars in the margin. The bars are marked TC for technical changes, TE for editorial changes, or if the change was made in response to a public comment, the designated comment number as listed in Appendix E. Many of the technical changes are the result of the availability of updated information since publication of the draft EIS.

DOE prepared this EIS in accordance with the provisions of the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR 1500-1508), and DOE NEPA Implementing Procedures (10 CFR 1021). This EIS identifies the methods used in the analyses and the sources of information. In addition, it incorporates, directly or by reference, information from other ongoing studies.

The document is structured as follows:

Chapter 1 provides background information and introduces the River Water System at the SRS.

Chapter 2 sets forth the purpose and need for DOE action.

Chapter 3 describes the alternatives DOE is considering.

Chapter 4 describes the environment at the SRS and in the surrounding area potentially affected by the alternatives addressed and provides a detailed assessment of the potential environmental impacts of the alternatives. It also assesses environmental justice, unavoidable adverse impacts, irreversible or irretrievable commitments of resources, short-term uses and long-term productivity of the human environment, and cumulative impacts.

Chapter 5 identifies regulatory requirements and evaluates their applicability to the alternatives considered.

TC Chapter 6 is a list of references used in Chapters 1 through 5 of this EIS.

Appendix A is an investigation of potential remedial actions for L-Lake.

Appendix B describes the ecological effects of radioactive and nonradioactive contaminants.

Appendix C provides supplemental data for occupational and public health impacts.

Appendix D describes ecological resources, including flora and fauna.

TC Appendix E contains copies of letters from the public comment period and DOE responses to those comments.

TC Appendix F describes L-Lake sediment data and the data sources.